ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

RESPONSIVENESS SUMMARY
TO COMMENTS RECEIVED DURING EXTERNAL REVIEW
For
Proposed Air Quality Control Permit Number 1000402

Citizens Utilities Company - Valencia Power Plant

The following comments were submitted by Citizens Utilities Company dated September 21, 1998.

Attachment B: Specific Conditions

Comment 1: *I.C.2.*
(Solvent Degreasing and Gasoline Fuel Dispensing Nozzles): This language requires the mandatory use of control methods without specifying what they are. This requirement is vague, as it is not clear how Citizens is to determine what "means are available to reduce effectively the contribution from air pollution" and thus the company cannot know what control methods are mandatory. We also believe that the condition is unenforceable as written.

Response: Solvent degreasing and gasoline fuel dispensing nozzles are subject to A.A.C. R18-2-730.F. They are only periodic activities on site. Therefore, the source has flexibility to choose the means to reduce effectively the contribution from air pollution. It is recommended that Citizens provide the means to be used to control air pollution.

Comment 2: *II.A.*
(Requirement to have on staff a person that is certified in EPA Reference 9): As you know, the Alco Diesel generators at the Valencia power plant run infrequently. When the units are dispatched, they generally operate only for a short time. As Citizens will be required to do a visible emissions evaluation only in the event that one of the Diesel generators is operated continuously for a time period greater than 48 hours (proposed Condition B.II.E.1), it is extremely unlikely that visible emissions evaluations will ever be required for these units. In light of this, we believe that it would be an unreasonable burden for CUC to be required to have on staff a person certified in EPA Reference Method 9. We propose that CUC instead be required to identify a person, certified in EPA Reference Method 9, who can be called upon to perform opacity readings in the event the requirement is triggered.

Response: Citizens is a major source. It is necessary to have on staff a person who is certified in EPA Reference Method 9 in order to ensure compliance with the opacity standard set forth in the

permit.

Comment 3: *II.D.2.*
(Hitachi Gas Turbine Generators: Requirement to Monitor Fuel Nitrogen Content): Although 40 CFR 60.334(b) requires periodic monitoring of fuel nitrogen content for compliance with the gas turbine NSPS, EPA policy documents provide an alternative means of compliance for this requirement. CUC has proposed, and the Director has approved, this alternative compliance method for determining the nitrogen content of the natural gas fuel used in the gas turbines. The correspondence on this issue is attached to this letter. We request that this condition be revised to reflect the alternative compliance method that has previously been approved.

Response: Per EPA Memorandum Authority for Approval of Custom Fuel monitoring Schedules Under NSPS Subpart GG, August 14, 1987, the requirement for monitoring the nitrogen content is not required when pipeline quality gas is burned. Regarding custom monitoring schedule, please see Section II.D.2.(b) of Attachment B.

Comment 4: *II.D.7*
(Hitachi Gas Turbine Generators: Requirement to report dates and hours of operation of each turbine): Citizens is currently required to submit a semiannual report showing fuel use and megawatt-hours of generation for each turbine on a monthly basis. We believe that this report is sufficient to allow ADEQ to ensure compliance with the applicable limit on total turbine generation. Since the turbines are not necessarily operated at full load when in operation, submittal of information regarding dates and hours of operation will not be adequate to determine compliance. We request that this condition be revised as follows:

> *The permittee shall submit a summary showing fuel use and generation for each unit, by month, for the period of each compliance certification.*

Response: The requested change has been made.

Comment 5: *II.E.7*
(Alco Diesel Generators: Requirement to report dates and hours of operation of each generator): As for the gas turbines, Citizens is currently required to submit a semiannual report showing fuel use and megawatt-hours of generation for each generator on a monthly basis. We believe that this report is sufficient to allow ADEQ to ensure compliance with the applicable limit on total generation from these units. Since the generators are not necessarily operated at full load when in operation, submittal of information regarding dates and hours of operation will not be adequate to determine compliance. We request that this condition be revised as follows:

> *The permittee shall submit a summary showing fuel use and generation for each unit, by month, for the period of each compliance certification.*

Response: The requested change has been made.

Comment 6: *II.D.1a, II.E.3a and II.E.4*

(Sulfur Dioxide Emissions Limits and Reporting Requirements for Hitachi Gas Turbine and Alco Diesel Generators): These conditions would require the natural gas burned in the generating units to have a heating value greater than or equal to 967 Btu/ft^3, and would require Citizens to notify the Director in writing of changes in the higher heating value limits that occur during the term of the permit. It is not clear why these conditions are included, and we request that they be removed.

Response: Section II.D.1.a and Section II.E.3.a have been revised to read as follows:

"Permittee shall maintain a vendor-provided copy of that part of the Federal Energy Regulatory Commission (FERC)-approved Tariff agreement that contains the sulfur content and the lower heating value of the pipeline quality nautral gas."

III.B.1 (Testing Requirements for Hitachi Gas Turbines): The testing requirements in this section are taken from the draft Significant Modification permit, and we assume that they will be modified to conform with the testing requirements that are agreed to for the final permit. In addition, it is unclear what is meant by the last sentence: "All loads shall be corrected to ISO conditions using the appropriate equations supplied by the manufacturer." Please clarify.

Response: The issue has been resolved through the Significant Permit Revision #1000563. The permit condition for testing requirements in significant revision #1000563 has been carried over into the Title V permit.

III.B.1 and III.B.2 (Testing Requirements for the Hitachi Gas Turbines):

ADEQ is proposing to require annual testing of each of the three gas turbines for NOx emissions at each of four load points, on both natural gas and Diesel fuel. This testing requirement goes far beyond what is required by 40 CFR 60.335 and would constitute a major burden for CUC.

As discussed previously, the gas turbines are identical and are operated infrequently and for short periods of time. The three turbines are dispatched in a manner that keeps the generation from each unit approximately equal. For the initial compliance testing that was required by 40 CFR 60.8, Citizens was allowed to demonstrate compliance with the applicable standard by testing one turbine on natural gas and on oil.

Citizens believes that compliance with the applicable limit for NOx can be adequately demonstrated by requiring the testing of a single turbine each year at full load. Uncontrolled NOx emissions are higher at full load than at part load, so compliance at full load is most difficult. As long as the water-to-fuel ratios established during initial compliance testing are complied with, there is no reason to believe that the 75 ppm NOx emissions limit will be exceeded. We are working on alternative testing requirements for the Significant Modification permit and the testing requirements agreed to for that permit should be included here.

In addition, the performance testing should take place using the approved water-to-fuel ratio curve that will be included in the permit, rather than at the two water-to-fuel ratios specified in the draft permit.

Response: The issue has been resolved through the Significant Permit Revision #1000563. The permit condition for testing requirements in significant revision #1000563 has been carried over into the Title V permit.

Technical Review and Evaluation

III. (Emissions Calculations: Potential to Emit): Table 4 presents a comparison of the potential to emit for each unit with allowable emissions, test data, and actual emissions from the emission inventory. We understand that the potential to emit for the gas turbines was calculated using AP-42 emission factors for a water-to-fuel ratio of 0.8:1.0. As the turbines will never operate at this water-to-fuel ratio, we believe this is not the appropriate procedure to use for calculating potential to emit. In the permit application, calculations of NOx and CO potential to emit were provided that were based on data supplied by the water injection system vendor, Turbine Technology Services. As these data represent expected operation of the turbines under the design water-to-fuel ratios, we believe that these emissions are far more representative of the turbines' true potential to emit. Emission factors for SO_2 are based on stoichiometric calculations; factors for VOCs and PM_{10} were taken from AP-42. Similarly, we believe that the calculation of potential to emit for the Alco Diesel engine generators should also be revised.

Response: The table has been revised to reflect more representative PTE data.

II. (Emissions Calculations: Allowable Emissions): Allowable emissions for the gas turbines should be specified for both NOx, reflecting the 75 ppmvd NSPS limit, and CO, reflecting the 250 ton per year facility-wide limit to keep facility emissions from exceeding the PSD emissions threshold. NOx emissions are higher during fuel oil firing; thus the allowable NOx emissions should be equal to the fuel oil emissions potential to emit of 99.0 tons per year. Similarly, allowable CO emissions should be equivalent to the fuel oil emissions potential to emit of 236.0 tons per year.

Response: The table has been revised to limit CO emisison to keep facility emissions from exceeding the PSD emission threshold.